

Wyatt  
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NPL

9/5/1 (Item 1 from file: 5)  
DIALOG(R)File 5:BIOSIS Previews(R)  
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12706819 BIOSIS NO.: 200000460321

**Multi-electrode stimulation and recording in the isolated retina.**

AUTHOR: Grumet Andrew E(a); Wyatt John L Jr ; Rizzo Joseph F III  
JOURNAL: Journal of Neuroscience Methods 101 (1):p31-42 15 August, 2000  
ISSN: 0165-0270

ABSTRACT: As part of an exploration of the feasibility of an epi-retinal **prosthesis**, we developed an experimental method to electrically stimulate and record from retinal neurons using a micro-fabricated multi-electrode array. An isolated retina is placed on an array of 10 mm diameter disk electrodes with the ganglion cell side of the retina facing the electrode surfaces. The retina is bathed in oxygenated Ames' medium and warmed in order to sustain it in vitro for the duration of an experiment, typically 4-9 h. To reduce stimulus artifacts, the electrodes are grouped into two clusters - one used for stimulation and the other for recording - spaced several hundred microns apart, and electrodes are insulated with both silicon nitride and a 10 mm thick layer of polyimide. Stimuli are delivered to the array using an optically isolated current source stimulator, and the resulting responses recorded with an eight channel nerve response amplifier. Stimulation and recording are performed under computer control. A variety of physiologic measurements is described in order to illustrate the strengths and drawbacks of this method.

9/5/2 (Item 2 from file: 5)  
DIALOG(R)File 5:BIOSIS Previews(R)  
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12520869 BIOSIS NO.: 200000274371

**Evaluation of external electrical stimulation of the eye as a screening test for acute intraocular retinal stimulation studies.**

AUTHOR: Shahin M E(a); Rizzo J F(a); Wyatt J ; Loewenstein J(a)  
JOURNAL: IOVS 41 (4):pS860 March 15, 2000  
CONFERENCE/MEETING: Annual Meeting of the Association in Vision and Ophthalmology. Fort Lauderdale, Florida, USA April 30-May 05, 2000  
DESCRIPTORS:

MAJOR CONCEPTS: Methods and Techniques; Nervous System (Neural Coordination); Sense Organs (Sensory Reception)

9/5/3 (Item 3 from file: 5)  
DIALOG(R)File 5:BIOSIS Previews(R)  
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12000668 BIOSIS NO.: 199900281187

**Hermetic encapsulation testing for a retinal prosthesis.**

AUTHOR: Moss J D(a); Socha M M; Wyatt J L ; Rizzo J F  
JOURNAL: IOVS 40 (4):pS732 March 15, 1999  
CONFERENCE/MEETING: Annual Meeting of the Association for Research in Vision and Ophthalmology Fort Lauderdale, Florida, USA May 9-14, 1999  
DESCRIPTORS:

MAJOR CONCEPTS: Methods and Techniques; Sense Organs (Sensory Reception)

METHODS & EQUIPMENT: hermetic encapsulation testing--analytical method;  
retinal **prostheses** --prosthetic  
MISCELLANEOUS TERMS: light transmission; Meeting Abstract; Meeting  
Poster

9/5/4 (Item 4 from file: 5)  
DIALOG(R)File 5:BIOSIS Previews(R)  
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11996465 BIOSIS NO.: 199900276984

**Mechanical design and surgical implantation of second generation retinal  
prosthesis .**

AUTHOR: Socha M M(a); Moss J D(a); Shahin M(a); Herndon T(a); **Wyatt J L**  
(a); Rizzo J F(a)

JOURNAL: IOVS 40 (4):pS735 March 15, 1999

CONFERENCE/MEETING: Annual Meeting of the Association for Research in  
Vision and Ophthalmology Fort Lauderdale, Florida, USA May 9-14, 1999

SPONSOR: Association for Research in Vision and Ophthalmology

RECORD TYPE: Citation

DESCRIPTORS:

MAJOR CONCEPTS: Equipment, Apparatus, Devices and Instrumentation; Sense  
Organs (Sensory Reception)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Animals; Chordates; Lagomorphs  
; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Vertebrates

METHODS & EQUIPMENT: retinal **prosthesis** --long term biocompatibility,  
prosthetic

MISCELLANEOUS TERMS: Meeting Abstract; Meeting Poster

9/5/5 (Item 5 from file: 5)  
DIALOG(R)File 5:BIOSIS Previews(R)  
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10963254 BIOSIS NO.: 199799584399

**Single-unit recordings following extracellular stimulation of retinal  
ganglion cell axons in rabbits.**

AUTHOR: Rizzo J F(a); Grumet A E; Edell D J; **Wyatt J L** ; Jensen R J

JOURNAL: Investigative Ophthalmology & Visual Science 38 (4 PART 1-2):pS40  
1997

CONFERENCE/MEETING: Annual Meeting of the Association for Research in  
Vision and Ophthalmology, Parts 1-2 Fort Lauderdale, Florida, USA May  
11-16, 1997

ISSN: 0146-0404

DESCRIPTORS:

MAJOR CONCEPTS: Cell Biology; General Life Studies; Nervous System  
(Neural Coordination); Physiology; Sense Organs (Sensory Reception)

BIOSYSTEMATIC NAMES: Leporidae--Lagomorpha, Mammalia, Vertebrata,  
Chordata, Animalia

ORGANISMS: rabbit (Leporidae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; lagomorphs  
; mammals; nonhuman mammals; nonhuman vertebrates; vertebrates

MISCELLANEOUS TERMS: Meeting Abstract; Meeting Poster; ANODAL  
STIMULATION; CATHODAL STIMULATION; ELECTRICAL THRESHOLD; ELECTRODE  
DISPLACEMENT; EPIRETINAL **PROSTHESIS** ; MISCELLANEOUS METHOD; NERVOUS  
SYSTEM; PROSTHETIC; RETINAL GANGLION CELL AXON; SENSE ORGANS; SENSORY  
SYSTEM

9/5/6 (Item 6 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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10306302 BIOSIS NO.: 199698761220

**Electrically-evoked cortical potentials from stimulation of rabbit retina with a microfabricated electrode array.**

AUTHOR: Rizzo J F(a); Miller S(a); Denison T; Herndon T; Wyatt J L  
JOURNAL: Investigative Ophthalmology & Visual Science 37 (3):pS707 1996  
CONFERENCE/MEETING: 1996 Annual Meeting of the Association for Research in Vision and Ophthalmology Fort Lauderdale, Florida, USA April 21-26, 1996  
ISSN: 0146-0404  
RECORD TYPE: Citation  
DESCRIPTORS:

MAJOR CONCEPTS: General Life Studies; Methods and Techniques; Nervous System (Neural Coordination); Pathology; Sense Organs (Sensory Reception)

BIOSYSTEMATIC NAMES: Leporidae--Lagomorpha, Mammalia, Vertebrata, Chordata, Animalia

MISCELLANEOUS TERMS: ELECTRICALLY-INDUCED RESPONSE; LIGHT-INDUCED RESPONSE; MEETING ABSTRACT; MEETING POSTER; POTENTIAL THERAPY; RETINAL PROSTHESIS

9/5/7 (Item 7 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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09795008 BIOSIS NO.: 199598249926

**Development of a silicon retinal implant : Reproducibility of electrically-evoked visual cortical responses in rabbits.**

AUTHOR: Rizzo J F(a); Miller S(a); Wyatt J L ; Edell D  
JOURNAL: Investigative Ophthalmology & Visual Science 36 (4):pS927 1995  
CONFERENCE/MEETING: Annual Meeting of the Investigative Ophthalmology and Visual Science Fort Lauderdale, Florida, USA May 14-19, 1995  
ISSN: 0146-0404  
DESCRIPTORS:

MAJOR CONCEPTS: Cell Biology; General Life Studies; Information Studies; Mathematical Biology (Computational Biology); Models and Simulations (Computational Biology); Nervous System (Neural Coordination); Sense Organs (Sensory Reception)

9/5/8 (Item 8 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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09794195 BIOSIS NO.: 199598249113

**Development of a silicon retinal implant : Long-term biocompatibility of materials.**

AUTHOR: Miller S(a); Rizzo J F(a); Wyatt J L  
JOURNAL: Investigative Ophthalmology & Visual Science 36 (4):pS746 1995  
CONFERENCE/MEETING: Annual Meeting of the Investigative Ophthalmology and Visual Science Fort Lauderdale, Florida, USA May 14-19, 1995  
ISSN: 0146-0404  
DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology;

Morphology; Nervous System (Neural Coordination); Pathology; Physiology  
; Sense Organs (Sensory Reception); Surgery (Medical Sciences)

9/5/9 (Item 9 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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09791875 BIOSIS NO.: 199598246793

**Development of a silicon retinal implant : Demonstration of  
microelectronic system for optical transmission of signal and power.**

AUTHOR: Wyatt J (a); Mann J; Edell D; Raffel J; Rizzo J F

JOURNAL: Investigative Ophthalmology & Visual Science 36 (4):pS249 1995

CONFERENCE/MEETING: Annual Meeting of the Investigative Ophthalmology and  
Visual Science Fort Lauderdale, Florida, USA May 14-19, 1995

ISSN: 0146-0404

DESCRIPTORS:

MAJOR CONCEPTS: General Life Studies; Nervous System (Neural  
Coordination); Physiology; Sense Organs (Sensory Reception); Surgery  
(Medical Sciences)

CHEMICALS & BIOCHEMICALS: SILICON

MISCELLANEOUS TERMS: ANALYTICAL METHOD; MEETING ABSTRACT; MEETING  
POSTER; PHOTODIODE DESIGN

9/5/10 (Item 10 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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09204013 BIOSIS NO.: 199497212383

**Development of a silicon retinal implant -microelectronic system for  
wireless transmission of signal and power.**

AUTHOR: Mann J(a); Edell D(a); Rizzo J F; Raffel J(a); Wyatt J L

JOURNAL: Investigative Ophthalmology & Visual Science 35 (4):p1380 1994

CONFERENCE/MEETING: Annual Meeting of the Association for Research in  
Vision and Ophthalmology Sarasota, Florida, USA May 1-6, 1994

ISSN: 0146-0404

RECORD TYPE: Citation

DESCRIPTORS:

MAJOR CONCEPTS: General Life Studies; Nervous System (Neural  
Coordination); Sense Organs (Sensory Reception)

CHEMICALS & BIOCHEMICALS: SILICON

MISCELLANEOUS TERMS: MEETING ABSTRACT; MEETING POSTER

9/5/11 (Item 11 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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09204011 BIOSIS NO.: 199497212381

**Development of a silicon retinal implant : Epiretinal stimulation of  
retinal ganglion cells in the rabbit.**

AUTHOR: Wyatt J L (a); Rizzo J F; Grumet A(a); Edell E; Jensen R J

JOURNAL: Investigative Ophthalmology & Visual Science 35 (4):p1380 1994

CONFERENCE/MEETING: Annual Meeting of the Association for Research in  
Vision and Ophthalmology Sarasota, Florida, USA May 1-6, 1994

ISSN: 0146-0404

DESCRIPTORS:

MAJOR CONCEPTS: Cell Biology; General Life Studies; Membranes (Cell Biology); Nervous System (Neural Coordination); Pathology; Physiology; Sense Organs (Sensory Reception)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; lagomorphs ; mammals; nonhuman vertebrates; nonhuman mammals; vertebrates

CHEMICALS & BIOCHEMICALS: SILICON

MISCELLANEOUS TERMS: ELECTROPHYSIOLOGY; EPIRETINAL PROSTHESIS ;

MEETING ABSTRACT; MEETING POSTER

9/5/12 (Item 12 from file: 5)

DIALOG(R)File 5: Biosis Previews(R)

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09204009 BIOSIS NO.: 199497212379

**Development of a silicon retinal implant : Cortical evoked potentials following focal stimulation of the rabbit retina with light and electricity.**

AUTHOR: Narayanan M V(a); Rizzo J F; Edell D; **Wyatt J L** (a

JOURNAL: Investigative Ophthalmology & Visual Science 35 (4):p1380 1994

CONFERENCE/MEETING: Annual Meeting of the Association for Research in Vision and Ophthalmology Sarasota, Florida, USA May 1-6, 1994

ISSN: 0146-0404

RECORD TYPE: Citation

DESCRIPTORS:

MAJOR CONCEPTS: Membranes (Cell Biology); Models and Simulations (Computational Biology); Nervous System (Neural Coordination); Pathology; Physiology; Sense Organs (Sensory Reception)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; lagomorphs ; mammals; nonhuman vertebrates; nonhuman mammals; vertebrates

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S2	53	AU='WYATT J. L.':AU='WYATT J L JR'
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S4	2	AU='WYATT JR. J.L.':AU='WYATT JR. L.'
S5	360	S1:S4
S6	21	S5 AND (IMPLANT? ? OR PROSTHES?S)
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